**WE CLAIM:**

1. A piezo actuator drive circuit, comprising:

a drive amplifier having an input, and an output adapted to drive a piezo actuator in a voltage mode; and

a sensing circuit coupled to the drive amplifier sensing the piezo actuator.

2. The drive circuit as specified in Claim 1 wherein the sensing circuit is selectively coupled to the piezo actuator in a voltage mode.

3. The drive circuit as specified in Claim 1 wherein the sensing circuit selectively coupled to the piezo actuator in a charge mode.

4. The drive circuit as specified in Claim 1 wherein the drive amplifier has a high impedance output in the sensing mode.

5. The drive circuit as specified in Claim 4 wherein the sensing circuit provides a signal indicative of the piezo actuator position.

6. The drive circuit as specified in Claim 1 wherein the sensing circuit comprises a resistor divider providing a voltage signal.

7. The drive circuit as specified in Claim 6 wherein the voltage signal varies proportionally to the piezo actuator load.

8. The drive circuit as specified in Claim 1 wherein the drive amplifier has a feedback, wherein the sensing circuit is a portion of the feedback.

9. The drive circuit as specified in Claim 5 wherein the signal is indicative of the piezo actuator load variation.

10. The drive circuit as specified in Claim 1 further comprising a current mirror selectively coupled to the output of the drive amplifier.

11. The drive circuit as specified in Claim 10 wherein the current mirror is selectively uncoupled from the drive amplifier in the sensing mode.

12 The drive circuit as specified in Claim 11 wherein the current mirror is a class AB amplifier.

13. The drive circuit as specified in Claim 1 wherein the drive amplifier has a charge mode feedback configured to allow multiple piezo actuators to be driven in the charge mode.

14. The drive circuit as specified in Claim 13 wherein the charge mode feedback includes a DC restore amplifier forming a portion of the sensing circuitry.

15. The drive circuit as specified in Claim 14 wherein the DC restore amplifier is reconfigured in the sensing mode.

16. The drive circuit as specified in Claim 15 wherein the reconfigured DC restore amplifier is connected in a closed feedback loop in the charge mode, and in an open feedback loop in the sensing mode.

17. The drive circuit as specified in Claim 1 wherein the drive amplifier has a first output, and a second output having a current mirror based on the first output.

18. The drive circuit as specified in Claim 17 wherein a capacitor is coupled to the first output and the piezo actuators are adapted to be driven by the second output.

19. The drive circuit as specified in Claim 18 wherein a first time constant formed by the capacitor and the voltage mode feedback, and a second time constant formed by the piezo actuators and the voltage mode feedback, are substantially equal.

20. The drive circuit as specified in Claim 13 further comprising a DC control circuit controlling the DC value at the piezo actuator.

21. The drive circuit as specified in Claim 1 wherein the DC control circuit is integrated into the low frequency compensation loop.

22. The drive circuit as specified in Claim 1 further comprising a digital-to-analog (DAC) coupled to one drive amplifier input and a voltage reference being coupled to another drive amplifier input.

23. The drive circuit as specified in Claim 1 further comprising an ADC coupled to the sensing circuit.